Remarks/Arguments

Applicants have received and carefully reviewed the Office Action mailed March 4, 2005. Claims 14-34 have been canceled and claims 48-66 have been added. Claims 1-13 and 35-66 are currently pending. Support for the claim amendments and new claims is found in the specification, claims, and drawings as originally filed. No new matter has been added.

Rejections under 35 U.S.C. § 103(a)

Claims 1-4, 6-13, 35-39, and 41-47 are rejected as being unpatentable over Swan (US 4,668,854) taken together with Monroe et al. (US 5,976,363). The Examiner asserts that Swan teaches the invention except for the filter means being capable of removing particles of 1.0 micrometer size or smaller, using a reverse osmosis filter, and controlling the inlet solenoid valve by the use of first and second level detection floats that detect both high and low levels of fluid within a container downstream of the filter means. The Examiner asserts that Monroe et al. teach a water filtering and heating system similar to that of Swan, utilizing multiple filters in series including a reverse osmosis filter upstream of a collection tank that may feed the filtered water to a water heating means. The Examiner then asserts that it would have been obvious to one of ordinary skill in the art to modify the humidifier system of Swan to include high purity filtration such as reverse osmosis filters and to control the flow of water using multiple level sensing floats because doing so would reduce mineral buildup on the downstream heaters as well as optimizing the operating of the device by controlling water flow therethrough relative to the amount required to humidify the requisite area to the level necessary. Applicants respectfully traverse the rejection.

Independent claim 1, as amended, recites a humidifier system for humidifying air within a building having one or more air ducts, with the humidifier system configured to be mounted to an air duct in the building and the reservoir, heating element, and filter assembly sized to humidify the air inside the building. Swan teaches a system for controlling humidity in a chamber preferably of 30 cubic feet or less, using a tank of approximately 1 ½ inches in diameter and one inch tall and an inlet tube of 1/16 inch in diameter and an outlet tube of .25 inch in diameter. See column 3, lines 15-21. Swan thus teaches a very small device for humidifying the

air in a relatively small chamber. Swan does not appear to teach or suggest mounting his device to an air duct to humidify the air in a building. Additionally, there is no motivation for one of ordinary skill in the art to modify the device of Swan to mount the device to an air duct. The device of Swan is designed and configured for providing humidity to a relatively small chamber, and would not appear to be capable of providing humidity sufficient to humidify the air inside a building.

The Examiner asserts that Monroe et al. teaches a water filtering and heating system similar to that of Swan. Applicants respectfully disagree. Monroe et al. teaches a purified water supply system for a kitchen, and does not appear to teach or suggest a heating element adjacent to the reservoir for heating the filtered fluid within the reservoir. Monroe et al. teaches the kitchen water station 1 as being separate from and spaced from a kitchen appliance 4 using purified water. See column 10, lines 13-23 and 50-55, and FIGS. 1a and 1b. The water purification system of Monroe et al. does not appear to be configured to be mounted to an air duct, and because Monroe et al. teaches a filtration system and not a humidification system, there is no reason for modifying the system to be mounted to an air duct.

Applicants submit that one of ordinary skill in the art would have no motive or reason to combine the small chamber humidification device of Swan with the kitchen water purification device of Monroe et al. The references teach very different devices with different components, different configurations, and different functions. The only motivation for combining the teachings of Swan and Monroe et al. appears to come from Applicants' own specification. Additionally, even if one were to combine the teachings of Swan and Monroe et al., one would not arrive at the invention of claim 1, as amended. Neither Swan nor Monroe et al. appear to teach or suggest a humidification system configured to be mounted to an air duct in a building, with a reservoir, heat source, and filter assembly sized to humidify the air inside a building.

Independent claim 35 recites a fluid level detection mechanism to detect the fluid level in the reservoir. The Examiner asserts that one of ordinary skill in the art would have combined the teachings of Swan and Monroe et al. in order to optimize the operation of the device of Swan by controlling water flow therethrough relative to the amount required to humidify the requisite area to the level necessary. Swan already teaches controlling water flow through the system based on

the humidity level in the chamber. Swan specifically teaches:

> When the humidity in chamber 12 is sufficiently high, the sensor indicating signal is higher than the set point indicating signal, and the "duty cycle" of control line 32 is zero percent, i.e. line 32 is continuously de-energized. In such case valve 20 remains closed, allowing no water to be injected into steam generator 14 and no steam is generated. When the humidity in chamber 12 is very low, the sensor 16 indicating signal is lower in magnitude than the set point signal and outside a "proportional band", whereby the "duty cycle" on control line 32 is 100 percent, i.e. line 32 is continuously "on". In this case valve 20 stays open continuously and steam is continuously injected from tank 22 into chamber 12. When the sensor indicating signal magnitude is lower than the set point value, and within the proportional band, the duty cycle of control line 32 varies linearly with the difference between the sensor and set point indicator signals. When the system operates in the proportional band, pulses of water injected into steam generator 14 cause pulses of steam to be injected into chamber 12. The duration of each water or steam pulse increases as humidity within the chamber 12 decreases.

See column 3, lines 41-62. Swan teaches maintaining the tank at a relatively high temperature of 200 degrees C. such that as a water pulse enters the tank it rapidly turns to steam which vents into the chamber. See column 2, lines 56-57 and 65-67. The device of Swan appear to operate by periodically injecting a water pulse into the heated chamber where the water is rapidly turned to steam. Thus, there does not appear to be a level of water continuously in the tank. This concept is emphasized by Swan's teaching:

> One problem associated with boiling a quantity of water relates to the long lead time taken to increase the amount of water vapor generated and the long lead time required to stop the flow of water vapor when no longer needed. Thus such systems are not well adapted to precise control of humidity, particularly in a small chamber wherein only small amounts of water vapor are to be added in order to achieve a proper humidity level.

See column 1, lines 31-39. Swan thus actually teaches away from a combination with Monroe et al. because Swan specifically avoids having a water level continuously present in the tank but Monroe et al. teaches float switches that indicate when the water level in the storage tank is too high or too low. The modification of Swan's device to include a fluid level detection mechanism according to Monroe et al. would at best reinstate a problem Swan specifically overcomes, and would likely render the Swan device inoperable for it's intended purpose.

Neither Swan nor Monroe et al. alone or together teach or suggest each and every element of independent claims 1 and 35. The references thus fail to reach or suggest the elements of the dependent claims. Withdrawal of the rejection is respectfully requested.

Claims 5 and 40 are rejected as being unpatentable over the reference combination as applied to claims 1-4, 6-13, 35-39, and 41-47 above, and further in view of Guetersloh et al. (US 6,394,427). The combination of Swan and Monroe et al. fails to teach or suggest each and every element of the independent claims for at least the reasons set forth above. Guetersloh et al. do not provide what Swan and Monroe et al. lack, thus the combination of Swan, Monroe et al. and Guetersloh et al. also fails to teach or suggest the elements of dependent claims 5 and 40. Withdrawal of the rejection is respectfully requested.

New claims 48-66 recite elements not taught or suggested by the cited references. Reconsideration and reexamination are respectfully requested. Allowance of all pending claims is respectfully requested. If a telephone interview is desired or would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully Submitted,

Date: June 3, 2005

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